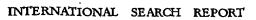
INTERNATIONAL SEARCH REPORT

International application No. PCT/US03/18857

A. CLASSIFICATION OF SUBJECT MATTER IPC/7) B01J 20/00, 21/04, 23/00, 23/40, 23/42, 23/44					
IPC(7) B01J 20/00, 21/04, 23/00, 23/40, 23/42, 23/44 US CL :502/303, 327, 333, 334, 335, 337, 339, 351, 355, 415, 439					
According to International Patent Classification (IPC) or to both national classification and IPC					
	DS SEARCHED				
Minimum do	ocumentation searched (classification system followed	by classification symbols)	į		
U.S. : 502/303, 327, 335, 334, 335, 337, 339, 351, 355, 415, 459, 527.19.					
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched					
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)					
C. DOCUMENTS CONSIDERED TO BE RELEVANT					
Category*	Citation of document, with indication, where app	propriate, of the relevant passages	Relevant to claim No.		
X	US 6,165,934 A (GARDNER et al) entire document.	26 DECEMBER 2000, see	1-3, 5-11, 13-19, & 21-23		
A	US 6,121,189 A (CAMPBELL et al) entire document.	ALL			
A	US 6,255,249B1 (VOSS et al) 03 JUL	Y 2001, see entire document.	ALL		
A	US 6,140,266 A (CORRIGAN et al) 31 document.	OCTOBER 2000, see entire	ALL		
A	US 6,180,075 B1 (LINDNER et al) 30 document.	JANUARY 2001, see entire	ALL		
A	US 6,248,689 B1 (MANSON) 19 JUN	E 2001, see entire document.	ALL		
X Further documents are listed in the continuation of Box C. See patent family annex.					
Special categories of cited documents: "T" later document published after the international filing date and not in conflict with the application but cited to the principle or theory underlying the invention			lication but cited to understand		
"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document published on or after the international filing data		considered novel or cannot be considered to involve an inventive step			
ci	ocument which may throw doubts on priority claim(s) or which is ited to establish the publication date of another citation or other	when the document is taken alone aya document of particular relevance; the	ne claimed invention cannot be		
"O" de	pecial reason (as specified) ocument referring to an oral disclosure, use, exhibition or other	considered to involve an inventive combined with one or more other su being obvious to a person skilled in	e step when the document is th documents, such combination		
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Date of the actual completion of the international search Date of mailing of the international search report					
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Name and mailing address of the ISA/US Authorized officer					
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International application No. PCT/US03/18857

C (Continua	tion). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages		Relevant to claim No.
A	US 6,294,140 B1 (MUSSMANN et al) 25 SEPTEMBER 2001, see entire document.		ALL
A	US 6,365,543 B1 (SCHMIDT et al) 02 APRIL 2002, see entire document.		ALL
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